

1        **What is claimed is:**

2        1.     A DC brushless motor structure comprising:

3                a base comprising a through-hole having a first end and a second  
4                end having a first axle hole, a lid being engaged with the first end of the  
5                through-hole and having a second axle hole, the base having a wall, at  
6                least two sets of windings being mounted to the wall of the base, an IC  
7                control means being mounted on the base and electrically connected to  
8                said at least two sets of windings; and

9                a rotor comprising a shaft and a permanent magnet having a north  
10               pole and a south pole, the shaft being rotatably received in the second  
11               axle hole of the lid and the first axle hole of the base, a repulsive  
12               magnetic force is directly created between the permanent magnet and  
13               said at least two sets of windings, thereby driving the rotor to turn.

14        2.     The DC brushless motor structure as claimed in claim 1, wherein each  
15               of the second axle hole of the lid and the first axle hole of the chamber  
16               comprises a bearing mounted therein.

17        3.     The DC brushless motor structure as claimed in claim 1, wherein the  
18               wall of the base has at least two mounting members for mounting said  
19               at least two sets of windings.

20        4.     The DC brushless motor structure as claimed in claim 3, wherein each  
21               of the mounting members is a countersink.

22        5.     The DC brushless motor structure as claimed in claim 3, wherein each  
23               of the mounting members is an outwardly projecting peg.

24        6.     The DC brushless motor structure as claimed in claim 1, further  
25               comprising two washers mounted on the shaft of the rotor and  
26               respectively located on two ends of the permanent magnet.

27        7.     The DC brushless motor structure as claimed in claim 1, wherein the  
28               base comprises at least one rib on an outer face of the wall.

1 8. The DC brushless motor structure as claimed in claim 7, further  
2 comprising a casing mounted around the outer face of the wall of the  
3 base.

4 9. The DC brushless motor structure as claimed in claim 8, wherein the lid  
5 is engaged with an end of the casing.

6 10. The DC brushless motor structure as claimed in claim 1, wherein the IC  
7 control means comprises a driving circuit and a Hall element.

8 11. The DC brushless motor structure as claimed in claim 1, wherein the  
9 shaft of the rotor has an end extending beyond the lid.

10 12. The DC brushless motor structure as claimed in claim 11, further  
11 comprising an eccentric element coupled to the end of the shaft beyond  
12 the lid.

13 13. The DC brushless motor structure as claimed in claim 11, further  
14 comprising a fan wheel coupled to the end of the shaft beyond the lid.

15 14. A DC brushless motor structure comprising:

16 a base comprising a through-hole and a wall, at least two sets of  
17 windings being mounted to the wall of the base, an IC control means  
18 being mounted on the base and electrically connected to said at least two  
19 sets of windings; and

20 a rotor comprising a shaft and a permanent magnet having a north  
21 pole and a south pole, the shaft being rotatably received in the through-  
22 hole of the base, the permanent magnet surrounding the base, a repulsive  
23 magnetic force is directly created between the permanent magnet and  
24 said at least two sets of windings, thereby driving the rotor to turn.

25 15. The DC brushless motor structure as claimed in claim 14, wherein the  
26 through-hole of the base has an inner diameter greater than an outer  
27 diameter of the shaft of the rotor, the through-hole has a first end and a  
28 second end, a support member being mounted in the first end of the  
29 through-hole, a lid being engaged with the second end of the through-

1 hole and having an axle hole through which an end of the shaft extends,  
2 the supporting member supporting another end of the shaft.

3 16. The DC brushless motor structure as claimed in claim 15, wherein the  
4 support member has an arcuate recess for supporting said another end  
5 of the shaft.

6 17. The DC brushless motor structure as claimed in claim 15, wherein the  
7 axle hole of the lid has a bearing mounted therein for rotatably holding  
8 the shaft.

9 18. The DC brushless motor structure as claimed in claim 14, wherein the  
10 wall of the base has at least two mounting members for mounting said  
11 at least two sets of windings.

12 19. The DC brushless motor structure as claimed in claim 18, wherein each  
13 of the mounting members is a countersink.

14 20. The DC brushless motor structure as claimed in claim 18, wherein each  
15 of the mounting members is an outwardly projecting peg.

16 21. The DC brushless motor structure as claimed in claim 14, wherein the  
17 IC control means comprises a driving circuit and a Hall element.

18 22. The DC brushless motor structure as claimed in claim 14, wherein the  
19 rotor has plural blades mounted thereon.  
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